

Appl. No. 10/617,603
Reply to Office Action of September 26, 2005

Docket No. RTN-170AUS

REMARKS

The above-identified patent application has been amended and Applicant respectfully requests the Examiner to reconsider and again examine the claims as amended in accordance with the provisions of 37 C.F.R. §1.116.

Claims 1-43 are pending in the application. Claims 1-43 are rejected. Claims 1, 15, 23, and 31 are amended herein to correct a grammatical error and not for reasons of patentability, as will be apparent. Claim 37 is also amended herein.

Before discussing below the particular rejections made by the Examiner, Applicant would like to clarify aspects of the present invention. The present invention is operable to store commands, which in some embodiments are display commands, for example scene graph display commands. The present invention can remove overriding, redundant, and/or superfluous commands before storing them from time to time as a so-called "dynamic snapshot," which is representative of a system state. As a simple example, a first command might change an object to color blue and a second command might change the object to color red. The first command would be unnecessary and would be eliminated prior to storage of a set of commands, reducing the size of associated storage space. Now, turning to the specific rejections:

The Rejections under 35 U.S.C. §102(b)

The Examiner rejects Claims 1 and 9-43 under 35 U.S.C. §102(b) as being anticipated by Trueblood (U.S. Patent number 5,893,053). Applicant believes that the Examiner may have intended to include Claim 8 in the rejections under 35 U.S.C. §102(b), and not in the rejections below under 35 U.S.C. §103(a). Therefore, Claim 8 is included in discussion below under 35 U.S.C. §102(b).

Applicant submits that Claim 1 is patentably distinct over Trueblood, since the cited reference neither describes nor suggests "... recording a first set of commands to a command

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queue to provide a first dynamic snapshot, wherein the first dynamic snapshot corresponds to a set of commands associated with a first system state; ... storing the first dynamic snapshot...; recording one or more additional sets of commands to the command queue; ... eliminating selected ones of overriding, redundant, and superfluous commands from the command queue to provide a second dynamic snapshot, wherein the second dynamic snapshot corresponds to a set of commands associated with a second system state; and storing the second dynamic snapshot ..., "as set forth in Claim 1.

With this particular arrangement, the present invention reduces the size required for storage of the dynamic snapshots, i.e., the system states. For example, referring to FIG. 3, at page 14, lines 1, it is described that:

Shortly before the time that the next dynamic snapshot is stored in the storage device 36 (FIG. 1) the dynamic snapshot 122 is updated to a state then corresponding to the ATC display system 20 (FIG. 1). The dynamic snapshot is updated by appending the command stack 124 to the dynamic snapshot 122, to become the next dynamic snapshot. It should be understood that, without further processing, the dynamic snapshot 122 would progressively grow in size. Therefore, overriding, redundant, and/or superfluous commands can be removed from the command queue 120 to provide a dynamic snapshot 122 that is reduced in size.

Formation of the so-called dynamic snapshots and the removal of overriding, redundant, and/or superfluous display commands therefrom is further described throughout the specification, including in conjunction with FIG. 3. As described above, it will be understood that the removal of such overriding, redundant, and/or superfluous display commands from the dynamic snapshot (i.e., from the stored system state) can greatly reduce the number of stored commands in each stored system state, and therefore, the associated storage space required.

It should be appreciated that when the arrangement of the present invention is applied to a display storage system, which stores each system state as a reduced set of display commands, the above-described reduction in required storage space can be substantial, particularly when

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compared to a conventional display storage system, which stores each system state as pixel information for all pixels on a display screen.

Regarding Trueblood, Applicant first makes note that the reference designations 70 and 72 used in the specification of Trueblood are reversed in FIG. 3 and Applicant leaves the discrepancy uncorrected in the discussion below.

In contrast to the claimed arrangement, as shown in FIG. 3, Trueblood stores very large amounts of display information in an X-command file 68 (in which commands are stored) and in a state file 72 (in which data rather than commands is stored). Trueblood also stores information in a control file 74 and in an event file 70. The storage of such large amounts of data results in a requirement for a much larger memory in which to store the data than required by the present invention. The storage of such large amounts of data also tends to result in a slower recall time of the data than for the present invention.

In particular, the X-command file 68 of Trueblood is used to store all display X-commands, which continually accumulate during operation, resulting in storage of a very large amount of information. For example, at column 5, lines 32-41, Trueblood describes:

an X-server communication daemon 58 is interposed between the application programs 26, 28 and 30 and the X-Window system 50. The X-server communication daemon 58 intercepts all X-protocol commands exchanged between the X-Window system 50 and the client programs 26, 28 and 30. All such commands are copied to the state tracking client 64. State tracking client 64 time-stamps the stream of X-protocol commands and writes the stamped stream out to an X-command file 68 in a mass-storage device 24, such as a hard disk drive. [emphasis added]

The state file 72 of Trueblood is used to store pixel information (i.e., data) representative of a displays state, not commands representative of a system state as in the present invention. For example, at column 6, lines 20-24, Trueblood describes, "[p]articularly, the state file stores the create parameters for each of the pixmaps, windows, color maps, cursors, fonts, and properties active in the display." [emphasis added] Storage of pixel information associated with

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a display is known to require a very large amount of storage space. The state file of Trueblood does not store commands as claimed, but instead stores pixel data and other data.

The event file 70 of Trueblood is merely used to store cursor movements. For example, at column 7, lines 7-9, Trueblood describes, [a] separate software component, the event-tracking client 66, receives all cursor events and stores them in an event file 72.

The control file 74 of Trueblood is merely used to store user inputs. For example, at column 7, lines 39-47, Trueblood describes:

The system of the present invention further includes an X-VCR record graphic user interface (GUI) client 60 and a control file 74. The X-VCR record GUI client 60 extracts information from user input, such as a file label, description (i.e., air sector ID, screen state storage intervals) and stores it in control file 74. The record GUI client 60 also extracts and stores in control file 74 work station data accessible through UNIX, such as start and stop time of the recording and work station ID. [emphasis added]

In view of the above, Applicant submits that Claim 1 is patentably distinct over Trueblood.

Claims 8-22 depend from and thus include the limitations of Claim 1. Thus, Applicant submits that Claims 8-22 are patentably distinct over the cited reference at least for the reasons discussed above in conjunction with Claim 1.

Applicant submits that Claim 8 is further patentably distinct over Trueblood, since the cited reference neither describes nor suggests "...the commands include display commands associated with a scene graph..." as set forth in Claim 9. One of ordinary skill in the art will understand that a scene graph has particular meaning, which is described, for example, from page 6 line 17 to page 8, line 30. In contrast, Trueblood describes storage of X-commands associated with X-windows, which are not the same as scene graphs or associated scene graph display commands.

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For substantially the same reasons discussed above in conjunction with Claim 8, Applicant submits that Claim 9 is further patentably distinct over Trueblood, since the cited reference neither describes nor suggests "...the commands include two-dimensional display command associated with a scene graph..." as set forth in Claim 9.

For substantially the same reasons described above in conjunction with Claim 8, Applicant submits that Claim 20 is further patentably distinct over Trueblood, since the cited reference neither describes nor suggests "... the commands include display commands associated with a scene graph..." as set forth in Claim 20.

For substantially the same reasons described above in conjunction with Claim 8, Applicant submits that Claim 21 is further patentably distinct over Trueblood, since the cited reference neither describes nor suggests "... the commands include two-dimensional display commands associated with a scene graph..." as set forth in Claim 21.

For substantially the same reasons described above in conjunction with Claim 1, Applicant submits that independent Claim 23 is further patentably distinct over Trueblood, since the cited reference neither describes nor suggests "... instructions for recording a first set of commands to a command queue to provide a first dynamic snapshot...; instructions for storing the first dynamic snapshot...; instructions for recording one or more additional sets of commands to the command queue; ...instructions for eliminating selected ones of overriding, redundant, and superfluous commands from the command queue to provide a second dynamic snapshot, wherein the second dynamic snapshot corresponds to a set of commands associated with a second system state; and instructions for storing the second dynamic ...," as set forth in Claim 23.

Claims 24-36 depend from and thus include the limitations of Claim 23. Thus, Applicant submits that Claims 24-36 are patentably distinct over the cited reference at least for the reasons discussed above in conjunction with Claim 23.

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For substantially the same reasons described above in conjunction with Claim 8, Applicant submits that Claim 24 is further patentably distinct over Trueblood, since the cited reference neither describes nor suggests "... the commands include display commands associated with a scene graph..." as set forth in Claim 24.

For substantially the same reasons described above in conjunction with Claim 8, Applicant submits that Claim 25 is further patentably distinct over Trueblood, since the cited reference neither describes nor suggests "... the commands include two-dimensional display commands associated with a scene graph..." as set forth in Claim 25.

For substantially the same reasons described above in conjunction with Claim 1, Applicant submits that Claim 31 is further patentably distinct over Trueblood, since the cited reference neither describes nor suggests "... instructions for eliminating selected ones of overriding, redundant, and superfluous commands from within the intermediate dynamic snapshot ..." as set forth in Claim 31.

For substantially the same reasons described above in conjunction with Claim 8, Applicant submits that Claim 32 is further patentably distinct over Trueblood, since the cited reference neither describes nor suggests "... the commands include display commands associated with a scene graph..." as set forth in Claim 32.

For substantially the same reasons described above in conjunction with Claim 8, Applicant submits that Claim 33 is further patentably distinct over Trueblood, since the cited reference neither describes nor suggests "... the commands include two-dimensional display commands associated with a scene graph..." as set forth in Claim 33.

For substantially the same reasons described above in conjunction with Claim 8, Applicant submits that Claim 36 is further patentably distinct over Trueblood, since the cited reference neither describes nor suggests "... the commands include two-dimensional display commands associated with a scene graph..." as set forth in Claim 36.

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Claim 37 is amended herein to recite "...wherein the dynamic snapshot generator is adapted to eliminate selected ones of overriding, redundant, and superfluous commands from each one of the command sets." Claim 37 is amended to include aspects already present in Claim 1. Therefore, the amendment made to Claim 37 requires no further search and no further burden upon the Examiner.

For substantially the same reasons described above in conjunction with Claim 1, Applicant submits that amended independent Claim 37 is further patentably distinct over Trueblood, since the cited reference neither describes nor suggests "... a dynamic snapshot generator coupled to the recording proxy for providing dynamic snapshots, wherein each dynamic snapshot corresponds to a respective set of commands and each set of commands is associated with a system state, wherein the dynamic snapshot generator is adapted to eliminate selected ones of overriding, redundant, and superfluous commands from each one of the command sets...," as set forth in amended Claim 37.

Claims 38-43 depend from and thus include the limitations of Claim 37. Thus, Applicant submits that Claims 38-43 are patentably distinct over the cited reference at least for the reasons discussed above in conjunction with Claim 37.

For substantially the same reasons described above in conjunction with Claim 8, Applicant submits that Claim 38 is further patentably distinct over Trueblood, since the cited reference neither describes nor suggests "... the commands include display commands associated with a scene graph..." as set forth in Claim 38.

For substantially the same reasons described above in conjunction with Claim 8, Applicant submits that Claim 39 is further patentably distinct over Trueblood, since the cited reference neither describes nor suggests "... the commands include two-dimensional display commands associated with a scene graph..." as set forth in Claim 39.

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For substantially the same reasons described above in conjunction with Claim 1, Applicant submits that Claim 41 is further patentably distinct over Trueblood, since the cited reference neither describes nor suggests "... a processor adapted to combine the commands in the command queue to eliminate selected ones of overriding, redundant, and superfluous commands in the command queue..." as set forth in Claim 41.

Applicant submits that Claim 41 is still further patentably distinct over Trueblood, since the cited reference neither describes nor suggests "... a command queue having a command stack portion; and a dynamic snapshot portion..." as set forth in Claim 41.

Applicant submits that Claims 42 and 43 are further patentably distinct over Trueblood, since the cited reference neither describes nor suggests "... the command stack portion...and...the dynamic snapshot portion..." as set forth in Claims 42 and 43.

In view of the above, Applicant submits that the rejection of Claims 1 and 9-43 (and also Claim 8 if intended to be included by the Examiner) under 35 U.S.C. §102(b) should be removed.

The Rejections under 35 U.S.C. §103(a)

The Examiner rejects Claims 2-8 under 35 U.S.C. §103(a) as being unpatentable over Trueblood. The Examiner also uses Burt (U.S. Patent number 5,649,032) in his comments. The Examiner asserts "...it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art..." Applicant believes that the Examiner may have intended to include Claim 8 in the rejections under 35 U.S.C. §102(b), and not in the rejections below under 35 U.S.C. §103(a). However, Claim 8 is included in discussion below under 35 U.S.C. §103(a).

Claim 1 is discussed above in view of Trueblood. Applicant submits that Burt fails to overcome the above deficiencies in Trueblood. As described in detail in an Amendment filed by Applicant on July 15, 2005, Applicant submits that Burt fails to describe or suggest the claimed "commands" at all, but rather describes "image inputs."

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In view of the above, Applicant submits that Claim 1 is patentably distinct over Trueblood, whether taken alone or in combination with Burt.

Claims 2-8 depend from and thus include the limitations of Claim 1. Thus, Applicant submits that Claims 2-8 are patentably distinct over the cited reference at least for the reasons discussed above in conjunction with Claim 1.

In view of the above, Applicant submits that the rejection of Claims 2-8 under 35 U.S.C. §103(a) should be removed.

In view of the above Amendment and Remarks, Applicant submits that Claims 1-43 and the entire case are in condition for allowance and should be sent to issue and such action is respectfully requested.

It is submitted that this amendment places the application in condition for allowance or in better form for consideration on appeal, and thus, entry of this amendment is respectfully requested under the provisions of 37 C.F.R. §1.116.

The Examiner is respectfully invited to telephone the undersigning attorney if there are any questions regarding this Amendment or this application.

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The Assistant Commissioner is hereby authorized to charge payment of any additional fees associated with this communication or credit any overpayment to Deposit Account No. 500845, including but not limited to, any charges for extensions of time under 37 C.F.R. §1.136.

Respectfully submitted,

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